

REMARKS

Reconsideration of this application is respectfully requested.

Claims 11- 28 were withdrawn from consideration by the examiner pursuant to a restriction requirement, and are hereby canceled without prejudice.

Claim 29 is amended to correct the spelling of the word "face" and the spelling of the word "embedded." This amendment is not related to the patentability of the claim.

REJECTION UNDER 35 U.S.C. § 112

Claim 5 was rejected under 35 U.S.C. § 112, second paragraph as being indefinite. The Action states, "it is not clear what comes after 'acrylic', there seems to be a missing term or phrase which does not complete the claim." This rejection is respectfully traversed. The undersigned has reviewed the image file wrapper in PAIR, and it appears that the last line of claim 5 was cut off during scanning by the Patent and Trademark Office (PTO). Claim 5 was never amended. As shown in the attached page from the amendment filed in the PTO August 21, 2003, original claim 5 as reflected in that paper recites, "acrylic polymer." Original claim 5 also appears in the present paper. Thus, claim 5 is not subject to rejection under 35 U.S.C. § 112, second paragraph, and there is no need to amend claim 5. Withdrawal of the rejection under § 112 is respectfully requested.

REJECTION UNDER 35 U.S.C. § 103

Claims 1-10, 29-35 were rejected under 35 U.S.C. § 103 as being unpatentable over Levine et al. 4,389,587 in view of Schakel et al. 5,567,504. The rejection of the claims under § 103 is respectfully traversed.

Claim 1 recites,

the cover layer has a thickness dimension which is substantially uniform and
in which the cover layer is permanently embedded into the body layer from the roughly textured face to a depth less than the thickness dimension.

In Applicants' claim 1, the cover layer is permanently embedded into the body layer from the roughly textured face to a depth less than the thickness dimension. That is, there is a layer of coating on the surface of the material being coated. Because the claimed thickness dimension of the cover layer is greater than the depth of the embedding, the coating of claim 1 necessarily is partially on the roughly textured face. This is similar to coating a film onto a surface, but the claimed composite allows a substantially uniform layer to be coated onto a roughly textured (i.e., uneven) surface.

The combination of Levine et al. and Schakel et al. neither disclose nor suggest these features.

Levine recites, at col. 3, lines 3-10,

"For ease of application both in manufacturing and use, it is preferred that the resin material be applied only to the exterior of the inner insulation layer. The thickness of the inner insulation layer is generally about 0.008 inch to 0.050 inch (0.02 cm to 0.13 cm) thick and the polymeric coating thickness is generally 0.005 inch to 0.030 inch (0.013 cm to 0.076 cm) thick. The function of the resin overcoating is to improve the electrical and/or thermal properties of the inner insulation layer."

Levine teaches that the resin is applied only to the exterior of the inner insulation layer, and thus teaches away from Applicants' claimed cover layer "permanently embedded into the body layer from the roughly textured face to a depth less than the thickness dimension." Further, Levine specifies a range of thickness of the polymeric coating of 0.005 inch to 0.030 inch. Thus, Levine et al. also teach away from Applicant's "cover layer [having] a thickness dimension

which is substantially uniform." Nowhere does Levine et al disclose or suggest that the cover layer be substantially uniform in thickness. Levine et al. only teach a thickness that can vary. Levine et al. state that the coating is applied by conventional methods, such as dipping, spraying or brushing, which do not inherently provide a coating thickness which is substantially uniform.

The Action states

"Levine describes an insulating layer of fiberglass, (column 2, lines 9-11) which corresponds to the claimed body layer of the claimed invention. Levine describes the polymer coating which is an acrylic polymer (which corresponds to the cover layer of the claimed invention) which is impregnated (corresponding to the embedding of the claimed invention), (column 2, lines 35-68; column 3, lines 24-26)."

This characterization of Levine is not, however, correct. Levine describes an inner insulating layer of fiberglass that is "overcoated with an electrically insulating polymer," (col. 2, line 11), "coated primarily on its exterior surface," (col. 2, lines 53-54), and that "the resin material be applied only to the exterior of the inner insulation layer." (col. 3, lines 1-2). Levine never suggests that "the cover layer is permanently embedded into the body layer" as required by claim 1. Levine describes a separate second insulating sleeving overbraided over the inner composite, which is impregnated with a polymeric binder (col. 3, lines 24-26). Levine never suggests impregnating the inner insulating layer of fiberglass (which the Action labels as a body layer) with the polymeric binder.

Even if the second insulating sleeving is considered a body layer, Levine et al. still do not suggest the features of claim 1. Levine teaches that the second insulating sleeving is impregnated, but never suggests impregnation, "from the roughly textured face to a depth less than the thickness dimension" of the cover layer. Levine's binder impregnates into the sleeving, but Levine et al. do not suggest that the binder is embedded to a depth less than the thickness of the binder. The only mention of a coating in Levine is with reference to the inner insulating layer.

Similarly, even if the combination of the inner insulating layer and the second insulating sleeving are together considered a body layer, Levine et al. do not teach impregnation, "from the roughly textured face to a depth less than the thickness dimension," of the polymeric binder layer.

Schakel fails to cure the deficiencies of Levine set forth above. Schakel teaches that the "major surface [of a duct board], including the grooves, is coated with a polymeric latex coating to encapsulate glass fibers and dust within the surface of the duct board." (abstract, lines 3-6). Schakel states that, "the invention relates to such a duct board and to an on-line method of and apparatus for applying a surface coating to the grooves of the glass fiber duct board, immediately following the cutting of the grooves in the duct board, to encapsulate the glass fibers exposed and dust created by the groove cutting operation within the surfaces of the grooves." (col 1, lines 9-15).

Both the VPI process of Levine and the blade coating process of Schakel are designed to coat into the material being coated. The VPI process (Levine) actually saturates the porous material, and attempts to remove all air and voids from within the material. The blade coating process (Schakel) pushes the coating into the board being coated by scraping off the top layer.

The Action alleges that "Schakel describes the thickness of the coating is determined by the geometry, thus thickness of the coating could be adjusted." However, Schakel never discloses or suggests that his coating is has a uniform thickness. Schakel merely refers to the coating thickness as "predetermined," (abstract, line 11) and states, "The thickness of the coating applied to the groove surfaces is determined by the spacing between the surfaces of the grooves and the opposing edges of the wiper blade." (col. 2, lines 36-38). "Predetermined" does not mean uniform. Schakel never suggests that, "the cover layer has a thickness dimension which is substantially uniform," as required by claim 1. Contrary to the allegation in the Action, Schakel never describes adjustment. Schakel merely states, "the wiper blades ... are spaced a selected distance from the surfaces of the groove to ... set the thickness of the layer of foamed polymeric coating material formed on the surfaces of the groove ..." (col. 6, lines 18-26). The fact that

Schakel sets his thickness neither discloses nor suggests that the thickness is substantially uniform. Thus, the Actions allegations of obviousness are based on language which does not appear in Schakel at all. Schakel neither suggests a substantially uniform coating, or a method that is likely to inherently produce such coating of substantially uniform thickness.

The Action makes a leap from arguing that, "the thickness of the coating is determined by the geometry, thus thickness of the coating could be adjusted," (page 4, lines 1-2, emphasis added) to alleging that Schakel describes such an adjustment (page 4, lines 9-10, "Moreover, the uniformity of the coating is obvious to one of ordinary skill sine the reference describes adjustment."). Even if Schakel's blade "could be adjusted," as alleged by the Action, that would not support a prima facie case of obviousness as alleged in the Action. As stated in M.P.E.P. § 2143.01, "The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990)." [Emphasis in original]

Further, Schakel describes a board with a uniformly cut grooves which much be somewhat smooth to accommodate the smooth surface. Schakel uses an intricate wiper blade that fits in the groove. Schakel lacks a roughly textured surface, as required by Applicants' claim 1. It appears that Schakels's method cannot tolerate a rough surface.

Therefore, the rejection of claim 1 under 35 U.S.C. § 103 should be withdrawn. Claims 2-10 and 29-35 should also be patentable for similar reasons to those set forth above.

New claim 37 further includes the feature that the body layer has a density of about 1 pound per cubic foot. Support for claim 37 is provided at page 7, line 14. Neither Levine or Schakel disclose or suggest this feature. One of ordinary skill in the art would not have been motivated to apply the combined teachings of Levine and Schakel to a roughly textured surface of a material of a density of about 1 pound per cubic foot. Such a material is typically flexible and compressible, making it difficult to apply a coating that extends above a top surface so that "

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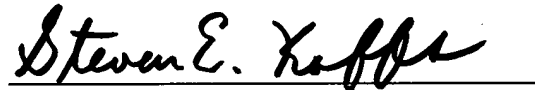
[I-8380]

the cover layer is permanently embedded into the body layer from the roughly textured face to a depth less than the thickness dimension." Therefore, claim 37 should be patentable.

New claim 38 defines an additional feature of the composite material. Applicant submits that a material having the coating material applied by the steps recited in claim 38 is a substantially different composite material from anything that could be made based on the combined teachings of Levine and Schakel. Support for claim 38 is provided, for example, from page 5, line 11 to page 6, line 22.

In view of the foregoing amendments and remarks, Applicants respectfully submit that this application is now in condition for allowance, and request early notification to that effect.

Respectfully submitted,

A handwritten signature in black ink, reading "Steven E. Koffs", is written over a horizontal line.

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Appendix COPY

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (previously presented): A composite comprising

(a) at least one body layer of a porous web having a roughly textured face and

(b) a cover layer of a solid of a cured liquid cast on the roughly textured face,

in which the cover layer has a thickness dimension which is substantially uniform and

in which the cover layer is permanently embedded into the body layer from the roughly textured face to a depth less than the thickness dimension.

Claim 2 (original): The composite of claim 1 in which the body layer is an insulation layer of cellular foam or nonwoven fibers.

Claim 3 (original): The composite of claim 2 in which the body layer consists essentially of fiberglass.

Claim 4 (original): The composite of claim 1 in which the cover layer is a flexible polymer selected from the group consisting of acrylic polymer, polyvinyl acetate, polystyrene, and a mixture of at least two of them.

Claim 5 (original): The composite of claim 4 in which the flexible polymer is acrylic polymer.

COPY Appendix